

DETAILED DESCRIPTION

This paragraph (the first full paragraph on page 6) will replace all prior versions in the application:

The proliferation of patients with implantable drug pumps worldwide has made it desirable to provide remote services to the drug pumps and timely clinical care to the patient. Frequent use of programmer devices to communicate with implantable medical devices and provide various remote services, consistent with U.S. Patents and co-pending applications: titled U.S. Pat. No.: 6,250,309 titled “System and Method for Transferring Information Relating to an Implantable Medical Device to a Remote Location,” filed on July 21, 1999, ~~Ser. No. 09/358,081~~; U.S. Pat. No.: 6,442,433 titled “Apparatus and Method for Remote Troubleshooting, Maintenance and Upgrade of Implantable Device Systems,” filed on October 26, 1999, ~~Ser. No. _____~~; U.S. Pat. No.: 6,644,321 titled “Tactile Feedback for Indicating Validity of Communication Link with an Implantable Medical Device,” filed October 29, 1999, ~~Ser. No. _____~~; U.S. Pat. No.: 6,385,593 titled “Apparatus and Method for Automated Invoicing of Medical Device Systems,” filed October 29, 1999, ~~Ser. No. _____~~; “Apparatus and Method for Remote Self-Identification of Components in Medical Device Systems,” filed October 29, 1999, Ser. No. 09/429,956 a continuation of which has issued as U.S. Pat. No.: 6,754,538; U.S. Pat. No.: 6,363,282 titled “Apparatus and Method to Automate Remote Software Updates of Medical Device Systems,” filed October 29, 1999, ~~Ser. No. _____~~; “Method and Apparatus to Secure Data Transfer From Medical Device Systems,” filed November 2, 1999, Ser. No. 09/431,881; U.S. Pat. No.: 6,411,851 titled “Implantable Medical Device Programming Apparatus Having An Auxiliary Component Storage Compartment,” filed November 4, 1999, ~~Ser. No. _____~~; U.S. Pat. No.: 6,386,882 titled “Remote Delivery Of Software-Based Training For Implantable Medical Device Systems,” filed November 10th, 1999, ~~Ser. No. _____~~; U.S. Pat. No.: 6,418,346 titled “Apparatus and Method for Remote Therapy and Diagnosis in Medical Devices Via Interface Systems,” filed December 14, 1999, ~~Ser. No. _____~~; U.S. Pat. No.: 6,497,655 titled “Virtual Remote Monitor, Alert, Diagnostics and Programming For Implantable Medical Device Systems” filed December 17, 1999, ~~Ser. No. _____~~; “Implantable Therapeutic Substance Infusion Device with Active Longevity

Projection" filed March 16, 2001, Ser. No. 09/809,809; "Implantable Medical Device Management System," ~~Attorney Docket No. P 10000~~, filed on a ~~date even herewith~~ March 26, 2001, Ser. No. 06/278,821; which are all incorporated by reference herein in their entirety, has become an important aspect of patient care. Thus, in light of the disclosures herein, the present invention provides a vital system and method of dispensing/delivering efficient therapy and clinical care to the patient.

This paragraph (the third paragraph on page 12) will replace all prior versions in the application:

The present invention may be combined with an active longevity projection system, such as that disclosed by the pending application, assigned in common to the assignee of the instant invention, "Implantable Therapeutic Substance Infusion Device with Active Longevity Projection" filed March 16, 2001, Ser. No. 09/809,809, which is hereby incorporated in its entirety into the instant application. In combination with the active longevity projection system, the present invention may allow dynamic monitoring of the state of a medical device, allowing more accurate prediction of an elective replacement period for the infusion device to increase the infusion device's effective life, reduce the need for a clinician 12 to perform static longevity forecasts for therapy changes, and facilitate elective replacement scheduling for the convenience of the patient 10 and clinician 12, and many other improvements. The dynamically updated data may be used in conjunction with an active longevity projection program that correlates at least one preset parameter to at least one sensed parameter to calculate an updated or confirmed elective replacement period for the infusion device. The preset parameter may reside in device memory and is indicative of longevity of the infusion device. The sensed parameter is accessible by the processor indicative of longevity of the infusion device. Many embodiments of the therapeutic substance delivery device with active longevity projection and its methods of operation are possible.

These paragraphs (the second and third full paragraphs on page 26) will replace all prior versions in the application:

With reference to Figures 30 & 31, a flow diagram of the refill interval calculation is shown. As the clinician 12 inputs the therapeutic agents and their dosages 310), the calculator program sums the daily doses of the therapeutic agents 311 to determine the daily infusion volume. The calculator program then determines whether the daily infusion volume is within programming limits 312. The programming limits are stored in a database and are comprised of factors including but not limited to: the pump model installed, the pump's programming ranges, and the catheter volume (length). If the daily infusion volume is not within programming limits, the clinician 12 is forced to alter his/her original therapeutic agent prescription.

The clinician 12 is required to input a drug fill volume box, which is the total volume of therapeutic agents prescribed (313). The calculator then determines whether this volume is within the pump's reservoir limits 314. The reservoir limit is determined from preprogrammed pump information 315 located in the database, which includes information such as the pump's model and features. If the fill volume is greater than the reservoir limit, then the clinician 12 is forced to alter his/her original drug prescription. However, if the daily infusion volume is within the pump reservoir's respective limits, then the calculator program divides the fill volume by the daily flow volume 316 and the result is the refill interval in days 317. The refill interval calculation thus insures that the patient 10 is not submitted to unnecessary surgery to refill a drug pump, which could have been postponed several more months.